AMENDMENT TO THE DRAWING(S)

Please find a replacement sheet for the originally filed sheet of formal drawings containing Fig. 6 attached at the end of this Amendment.

REMARKS/ARGUMENTS

Claims 1-15 are pending in this application. Claims 1-6 and 8-15 are rejected and claim 7 is objected to. In this Amendment, claims 1 and 3 are amended and claims 2, 6 and 7 are canceled without prejudice or disclaimer. The amendments to the claims are all entirely supported by the application as originally filed and thus they raise no issue of new matter.

At page 2 of the Action, the Examiner objected to Claim 6 under 37 C.F.R § 1.75(c) as being, *inter alia*, of improper dependent form. Claim 6 has, therefore, been canceled without prejudice or disclaimer. At the same page, the Examiner required an amendment of the priority statement. The applicant has amended the priority statement the manner required by the Examiner. On pages 2-3 of the Action, the Examiner objected to Figure 6 of the drawings as being blurred. In response applicant submits together herewith a higher quality replacement sheet containing Figure 6. Entry of this replacement figure is respectfully requested. On page 3 of the Action, the Examiner objected as to informalities at page 26, lines 11-12 of the specification, on the basis that the word "gegen" in German should be translated into "against." The applicant checked the meaning of the German word "gegen" and determined that in fact "gegen" translates into the word "by" in English. Accordingly, on page 26, at lines 11-12 of the specification the word "gegen" has been replaced by the word "by", and the word "against" has been replaced by the word "by" in the two instances shown in line 11 and line 12.

At pages 3 to 5 of the Action, the Examiner rejected original Claims 1-6 and 8-15 as being unsupported by an adequate written description pursuant to 35 U.S.C. §112, first paragraph. In brief, the Examiner rejected the subject claims on the basis that the specification does not disclose a nucleotide sequence expressed during seed development in flowers with young ovules other than the apoplastic invertase inhibitor gene from tobacco and rapeseed. The Examiner further states that applicant fails to describe structural features common to members of a genus of sequences expressed during seed development in flowers with young ovules. Further, at page 5 of the Action, the Examiner makes the point that that sequences that have 80% sequence identity or complementarity to invertase inhibitor sequences expressed during seed development in flowers with young ovules

encompass naturally occurring allelic variants, mutants of invertase inhibitors and sequences encoding proteins having no known invertase inhibitor activity.

Applicant respectfully disagrees with the Examiner's points on the issue of written description set forth at pages 3 to 5 of the Action and thus the rejection is traversed. In particular, applicant notes that no references supporting the Examiner's assertions are cited in support thereof. For example, the Examiner fails to consider that one of ordinary skill in the art, upon reading applicant's specification, would find common structural features to members of a genus of sequences expressed during seed development in flowers with young ovules. Applicant submits that it is common knowledge that proteins falling with certain classes, for example the well known S100 proteins, show a high degree of homology.

Nevertheless, to advance the prosecution of this case, and without conceding the correctness of the Examiner's stated bases for the subject written description rejection, the applicant has amended Claim 1 of the application to introduce the subject matter of original Claims 2, 6 and 7 (which have correspondingly been canceled without prejudice or disclaimer) to define the nucleotide sequence expressed during seed development as that which codes for an apoplastic invertase inhibitor protein, and wherein the nucleotide sequence is a nucleotide sequence having a sequence identity of 80% or more to a cDNA sequence in a cDNA library from flowers with young ovules of a plant. Likewise, the applicant has amended Claim 3 to refer to the subject nucleotide sequence codes for an apoplastic invertase inhibitor protein, and to depend on Claim 1 directly instead of now canceled Claim 2. Further, with respect to Claim 3, which recites process steps for, *inter alia*, cloning a partial or full-length cDNA coding for invertase protein inhibitor, the applicant has modified subparagraph (e) of the claim to recite "cloning . . . cDNA coding the apoplastic invertase inhibitor protein from a cDNA library . . . ." . Still further, the rejection of Claims 3 to 5 and 8 to 15 should now be withdrawn for the same reasons as those claims are dependent, either directly or indirectly, on Claim1 and thus include the same limitations.

For these reasons, applicant requests that the rejection of Claims 1-6 and 8-15 under 35 U.S.C. §112 as being unsupported by an adequate written description be withdrawn.

At pages 5 to 8 of the Action, the Examiner rejects Claims 1-6 and 8-15 as not meeting the enablement requirement of 35 U.S.C. §112, first paragraph. In brief, the Examiner asserts that the

specification does not reasonably enable a process of inhibiting invertase in a plant by transforming the plant using any sequence expressed during seed development in flowers with young ovules other than by transformation with an apoplastic invertase inhibitor protein. For this reason, the Examiner asserts that the specification does not enable the full scope of the claims. The Examiner makes corresponding arguments at page 6 of the Action with respect to the isolation, expression and cloning of nucleic acid sequences expressed during seed development in flowers other than those which express tobacco apoplastic cell wall inhibitor. At pages 6 to 7 of the Action, the Examiner provides an example wherein a vacuolar form of invertase inhibitor does not show expression in the plant *Arabidopsis*, and that the vacuolar invertase inhibitor coding sequence is thus an unlikely candidate for engineering reserve accumulation in seeds of plants transformed therewith.

Applicant respectfully disagrees with the Examiner on the issue of enablement and thus the rejection is traversed. While the specification of a patent must enable the full scope of the claims, it is well settled that the specification need not teach every embodiment falling within the scope of the claims. In this regard it is submitted that one of ordinary skill in the art, upon reading the detailed teachings of the specification, including, for example, those regarding the disclosed nucleic acid sequence coding for the invertase inhibitor protein, the isolation and cloning of the sequence, and the methods for transfecting and transforming a plant with cDNA construct, could derive similar materials and methods for producing other transgenic plants without any undue experimentation. This is the case given the fact that the arts of cloning and isolating cDNA sequences, introducing such cDNA into a wide variety of constructs, and transforming organisms introduced with those constructs are relatively mature.

Nevertheless, once again, to advance the prosecution of this case, and without conceding the correctness of Examiner's stated bases for the rejection on non-enablement grounds, the applicant has amended Claim 1 of the application to introduce the subject matter of Claims 2, 6 and 7 (which have accordingly been canceled without prejudice or disclaimer) to define a nucleotide sequence expressed during said seed development coding for an apoplastic invertase inhibitor protein, and wherein the nucleotide sequence is a nucleotide sequence having a sequence identity of 80% or more to a cDNA sequence in a cDNA library from flowers with young ovules of a plant. Likewise, the applicant has amended Claim 3 to refer to an apoplastic invertase inhibitor protein and to depend on

amended Claim 1 directly instead of now canceled Claim 2. Further, with respect to Claim 3, which recites process steps for, *inter alia*, cloning a partial or full-length cDNA coding for invertase protein inhibitor, the applicant has modified the claim to recite apoplastic invertase inhibitor protein. Thus, the rejection of Claims 3 to 5 and 8 to 15 should now be withdrawn as those claims are dependent upon, either directly or indirectly, on Claim1. For these reasons, applicant requests that the rejection of Claims 1-6 and 8-15 under 35 U.S.C. §112 as being non-enabled be withdrawn.

At page 8 of the Action, the Examiner has rejected Claim 6 as not meeting the definiteness requirement of 35 U.S.C. §112, second paragraph. Claim 6 has been canceled, rendering this specific rejection moot. However, a portion of the language of now canceled Claim 6 relating to "80% sequence identity" has been included in a more narrower and clarified fashion in amended Claim 1. The pertinent language in amended Claim 1 refers to a "nucleotide sequence coding for an apoplastic invertase inhibitor protein . . . wherein the nucleotide sequence [has] a sequence identity of 80% or more to a cDNA sequence in a cDNA library from flowers with young ovules of a plant." The "80% sequence identity" as is now targeted and defined by amended Claim 1, as well as by the specification which discloses the specific nucleotide sequence, i.e., that coding for apoplastic invertase inhibitor protein. For this reason, applicant submits that the canceling of Claim 6, and insertion of its recitation to 80% sequence identity, further clarifies Claim 1. Applicant therefore submits that any definiteness issue concerning this portion of amended Claim 1 is now obviated.

At pages 8 to 9 of the Action, the Examiner has rejected Claims 1-15 of the application under the doctrine of obvious type double patenting in view of claims 1-22 of U.S. Patent 6,784,399. However, the Form PTO-892 provided with the Office Action cites Patent No. 6,784,339 (not '399) and applicant thus believes the citation to 6,784,399 in the body of the Office Action is a typographical error. In particular, this is due to the fact that 6,784,399 is issued to Dunsky et al. rather than Thomas Rausch and is directed to a method of micromachining with high energy laser pulses. The following remarks are, thus, addressed to the '339 patent. At the outset, it should be noted that the '339 patent has 13, not 22, claims. On the merits the Examiner asserts that the claims of the present application and the claims of the '339 patent are not patentably distinct because, in

sum, the instant claims are "broadly drawn to a process of transforming a plant with an antisense or sense plant invertase inhibitor nucleic acid . . . " Office Action, page 9, lines 1-4 (emphasis added.)

While applicant respectfully disagrees with the Examiner's position on this issue, it is submitted that in addition to the amendments to the claims discussed above, the applicant has also amended Claim 1 of the present application to remove the term "anti-sense". Thus, amended Claim 1 clause (b) now reads, in pertinent part, as follows: "DNA construct in sense orientation" (emphasis added). As to the other claims of the application, the rejection of those claims should now be withdrawn as those claims are dependent upon, either directly or indirectly, on amended Claim1. For these reasons, applicant requests that the rejection of Claims 1-15 for double patenting be withdrawn.

Summary

The Examiner is requested to reconsider and withdraw all of the rejections set forth in the Office Action in light of the claim amendments and remarks presented herein. If the Examiner does not agree, and believes that an interview would advance the progress of this application, he is respectfully invited to telephone applicant's representative at the number below so that such an interview may be scheduled.

THIS CORRESPONDENCE IS BEING SUBMITTED ELECTRONICALLY THROUGH THE PATENT AND TRADEMARK OFFICE EFS FILING SYSTEM ON
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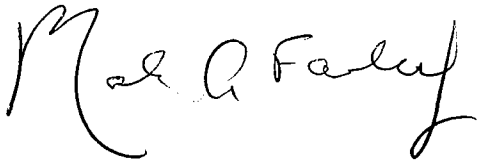
Respectfully submitted,



Mark A. Farley
Registration No.: 33,170
OSTROLENK, FABER, GERB & SOFFEN, LLP
1180 Avenue of the Americas
New York, New York 10036-8403
Telephone: (212) 382-0700

MAF:jl